ORM PTO-1390 (REV. 11-2000)	U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		0365-0506P
		U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 09/857170 NEW

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/FI99/01002	December 2, 1999	December 2, 1998

TITLE OF INVENTION

METHOD FOR ORGANIZING THE EXCHANGE OF PRODUCTS AND SERVICES BY MEANS OF A TELECOMMUNICATIONS NETWORK

APPLICANT(S) FOR DO/EO/US

ISOTALO, Lauri

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.

. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.

. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39 (1).

. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).

☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))

    a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).

    b. ☒ has been transmitted by the International Bureau. WO 00/36810

    c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).

☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).

    a. ☒ is transmitted herewith.

    b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4)

☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).

    a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).

    b. ☐ have been transmitted by the International Bureau.

    c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.

    d. ☒ have not been made and will not be made.

☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).

☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).

. ☒ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 20. below concern document(s) or information included:

☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98./International Search Report with cited references

☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.

☒ A FIRST preliminary amendment.

☐ A SECOND or SUBSEQUENT preliminary amendment.

☐ A substitute specification.

☐ A change of power of attorney and/or address letter.

☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821-1.825.

☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).

☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).

☒ Other items or information:
PCT/IPEA/409
PCT/RO/101
Two (2) sheets of formal drawings

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 09/857170 NEW	INTERNATIONAL APPLICATION NO. PCT/FI99/01002	ATTORNEY'S DOCKET NUMBER 0365-0506P

21. ☒ The following fees are submitted:

		CALCULATIONS	PTO USE ONLY

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5):

Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO. $1,000.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO $860.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO. $710.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) $690.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4). $100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

		$	1,000.00	

Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).

	$	0	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE			
Total Claims	17 - 20 =	0	X $18.00	$	0	
Independent Claims	3 - 3 =	0	X $80.00	$	0	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)	None		+ $270.00	$	0	
	TOTAL OF ABOVE CALCULATIONS =			$	1,000.00	

☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.

	$	0	

SUBTOTAL =	$	1,000.00	

Processing fee of **$130.00** for furnishing the English translation later than ☐20 ☐30 months from the earliest claimed priority date (37 CFR 1.492(f)). +

	$	0	

TOTAL NATIONAL FEE =	$	1,000.00	

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +

	$	40.00	

TOTAL FEES ENCLOSED =	$	1,040.00	

	Amount to be: refunded	$	
	charged	$	

a. ☒ A check in the amount of $ __1,040.00__ to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account. No. _____ in the amount of $_____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. __02-2448__.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

Send all correspondence to:
Birch, Stewart, Kolasch & Birch, LLP   or Customer No. 2292
P.O. Box 747
Falls Church, VA 22040-0747
(703)205-8000

Date: __June 1, 2001__

By _____
James M. Slattery, #28,380

/rem

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: ISOTALO, Lauri   Conf.:

Int'l. Appl. No.:   PCT/FI 99/01002

Appl. No.:   NEW   Group:

Filed: June 1, 2001   Examiner:

For: METHOD FOR ORGANIZING THE EXCHANGE
                    OF PRODUCTS AND SERVICES BY MEANS
                    OF A TELECOMMUNICATIONS NETWORK

PRELIMINARY AMENDMENT

BOX PATENT APPLICATION
Assistant Commissioner for Patents   June 1, 2001
Washington, DC 20231

Sir:

The following Preliminary Amendments and Remarks are respectfully submitted in connection with the above-identified application.

AMENDMENTS

IN THE SPECIFICATION:

Please amend the specification as follows:

Before line 1, insert --This application is the national phase under 35 U.S.C. § 371 of PCT International Application No. PCT/FI99/01002 which has an International filing date of December 2, 1999, which designated the United States of America and was published in English.

IN THE CLAIMS:

Please amend the claims as follows:

3. (Amended) Method according to claim 1, characterized in that all the billing information such as, e.g., ordered products, quantities thereof, product specifications, general information on products and provider, are transferred (15b) from the provider's data base DB (104) first to SCP (103), therefrom to the ticketing routine of SCP (102) and transparently therefrom onto the telephone bill form (110), whereby the provider's data base DB (104) will not update the billing server (109) with the basic product and provider information, but instead at least essentially all the itemized data and information to be printed on the telephone bill form come via the tickets written by SCP (102).

6. (Amended) Method according to claim 4, characterized in that the real time status of the shopping cart filled by the client (101) is stored in the SCP call control data base (103) and, when the client (101) acknowledges his shopping cart content ready for billing, information is sent him on the content of the shopping cart, price of each product and service selected into the cart and the grand total of the shopping cart content, whereupon said information on the content of the shopping cart is transmitted via said data base DB (104) either to the product/service provider's information system (109) or,

2

alternatively, over a GSM data connection or short messages to the service provider's GSM mobile phone (108).

7. (Amended) Method according to claim 4, characterized in that when the client (101) has acknowledged the shopping cart content ready for billing, he will receive a voice message about the grand total of the cart content and the data of the payment transaction is transferred via said SCP call control data base (103) and said data base DB (104) to the service provider as a confirmation of the purchase transaction and said SCP call control data base (103) requests said SSP exchange (102) to write such a billing ticket on the payment of the shopping cart contents that contains the product/service codes purchased from said provider, together with the quantities of purchased items.

8. (Amended) Method according to claim 4, characterized in that a plurality of billing tickets are made so that the product/service codes and order quantities of all the products and services selected into the shopping cart can be written on the tickets.

9. (Amended) Method according to claim 4, characterized in that the billing tickets are transferred along with the transfer of normal call charge ticket data to the system operator's billing system (109) that links the product/service codes and order quantities of products and services to be billed with the

detailed product data and price information stored in the billing system at the instant of the caller's purchase transaction.

10. (Amended) Method according to claim 4, characterized in that the bill (110) is complemented with service provider's contact data, delivery terms or other information of interest to the buyer.

13. (Amended) Method according to claim 11, characterized in that the call placed by the client (101) to a value-added service number is forwarded to the nearest SSP exchange (102), wherefrom a request is sent to an SCP call control data base (103), whereupon the SCP call control data base (103) further makes a request to a data base DB (104) which contains real time information on the products and services offered by the service provider that owns the value-added number, subsequently the SCP call control data base (103) requests an automatic voice response device IP/IVR (105) to play the caller voice message menu linked to said value-added service number, whereby the menu tells the client (101) the different product and service item alternatives, their prices and when necessary, a short product description.

14. (Amended) Method according to claim 11, characterized in that when the client (101) has acknowledged the shopping cart content ready for billing, he will receive a voice message about the grand total of the cart content and the data of the payment

transaction is transferred via said SCP call control data base (103) and said data base DB (104) to the service provider as a confirmation of the purchase transaction and said SCP call control data base (103) requests said SSP exchange (102) to write such a billing ticket on the payment of the shopping cart contents that contains the product/service codes purchased from said provider, together with the quantities of purchased items.

15. (Amended) Method according to claim 11, characterized in that a plurality of billing tickets are made so that the product/service codes and order quantities of all the products and services selected into the shopping cart can be written on the tickets.

16. (Amended) Method according to claim 11, characterized in that the billing tickets are transferred along with the transfer of normal call charge ticket data to the system operator's billing system (109) that links the product/service codes and order quantities of products and services to be billed with the detailed product data and price information stored in the billing system at the instant of the caller's purchase transaction.

17. (Amended) Method according to claim 11, characterized in that the bill (110) is complemented with service provider's contact data, delivery terms or other information of interest to the buyer.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

The claims have been amended as follows:

3. (Amended) Method according to[any claim 1 or 2] claim 1, characterized in that all the billing information such as, e.g., ordered products, quantities thereof, product specifications, general information on products and provider, are transferred (15b) from the provider's data base DB (104) first to SCP (103), therefrom to the ticketing routine of SCP (102) and transparently therefrom onto the telephone bill form (110), whereby the provider's data base DB (104) will not update the billing server (109) with the basic product and provider information, but instead at least essentially all the itemized data and information to be printed on the telephone bill form come via the tickets written by SCP (102).

6. (Amended) Method according to claim 4 [or 5], characterized in that the real time status of the shopping cart filled by the client (101) is stored in the SCP call control data base (103) and, when the client (101) acknowledges his shopping cart content ready for billing, information is sent him on the content of the shopping cart, price of each product and service selected into the cart and the grand total of the shopping cart content, whereupon said information on the content of the shopping cart is transmitted via

said data base DB (104) either to the product/service provider's information system (109)or, alternatively, over a GSM data connection or short messages to the service provider's GSM mobile phone (108).

7. (Amended) Method according to <u>claim 4</u> [or 5], characterized in that when the client (101) has acknowledged the shopping cart content ready for billing, he will receive a voice message about the grand total of the cart content and the data of the payment transaction is transferred via said SCP call control data base (103) and said data base DB (104) to the service provider as a confirmation of the purchase transaction and said SCP call control data base (103) requests said SSP exchange (102) to write such a billing ticket on the payment of the shopping cart contents that contains the product/service codes purchased from said provider, together with the quantities of purchased items.

8. (Amended) Method according to <u>claim 4</u> [or 5 or 6 or 7] characterized in that a plurality of billing tickets are made so that the product/service codes and order quantities of all the products and services selected into the shopping cart can be written on the tickets.

8

9. (Amended) Method according to claim 4 [or 5 or 6 or 7 or 8], characterized in that the billing tickets are transferred along with the transfer of normal call charge ticket data to the system operator's billing system (109) that links the product/service codes and order quantities of products and services to be billed with the detailed product data and price information stored in the billing system at the instant of the caller's purchase transaction.

10. (Amended) Method according to claim 4 [or 5 or 6 or 7 or 8], characterized in that the bill (110) is complemented with service provider's contact data, delivery terms or other information of interest to the buyer.

13. (Amended) Method according to claim 11 [or 12], characterized in that the call placed by the client (101) to a value-added service number is forwarded to the nearest SSP exchange (102), wherefrom a request is sent to an SCP call control data base (103), whereupon the SCP call control data base (103) further makes a request to a data base DB (104) which contains real time information on the products and services offered by the service provider that owns the value-added number, subsequently the SCP call control data base (103) requests an automatic voice response device IP/IVR (105) to play the caller a voice message menu linked to said value-added service number, whereby the menu tells the

9

client (101) the different product and service item alternatives, their prices and when necessary, a short product description.

14. (Amended) Method according to claim 11 [or 12 or 13], characterized in that when the client (101) has acknowledged the shopping cart content ready for billing, he will receive a voice message about the grand total of the cart content and the data of the payment transaction is transferred via said SCP call control data base (103) and said data base DB (104) to the service provider as a confirmation of the purchase transaction and said SCP call control data base (103) requests said SSP exchange (102) to write such a billing ticket on the payment of the shopping cart contents that contains the product/service codes purchased from said provider, together with the quantities of purchased items.

15. (Amended) Method according to claim 11 [or 12 or 13 or 14 or 15], characterized in that a plurality of billing tickets are made so that the product/service codes and order quantities of all the products and services selected into the shopping cart can be written on the tickets.

16. (Amended) Method according to claim 11 [or 12 or 13 or 14 or 15], characterized in that the billing tickets are transferred along with the transfer of normal call charge ticket data to the

10

system operator's billing system (109) that links the product/service codes and order quantities of products and services to be billed with the detailed product data and price information stored in the billing system at the instant of the caller's purchase transaction.

17. (Amended) Method according to <u>claim 11</u> [or 12 or 13 or 14 or 15 or 16], characterized in that the bill (110) is complemented with service provider's contact data, delivery terms or other information of interest to the buyer.

METHOD FOR ORGANIZING THE EXCHANGE OF PRODUCTS AND SERVICES BY MEANS OF A TELECOMMUNICATIONS NETWORK

The invention relates to a method according to the preamble of claim 1.

This type of method is conventionally used for implementing the offering and purchasing of products and services with the help of telephone/telecom network facilities.

In the prior-art technique of purchasing products and services over a telephone line has on the service-user side been based on a method in which the caller first places a call to either a normal directory number of the telephone network or a special value-added number. When a normal directory number is called, the call is connected to the product or service provider, whereupon the caller places his order on the basis of either *a priori* product information such as a product catalog or, e.g., verbal information obtained during the call. The payment of the product or service may take place by means of, e.g., a cash-on-delivery postal service, a bank account payment, credit card or, in conjunction with the product delivery, as is the case with pizza orders. When the call is made to a special value-added number, the price of the product or service is billed according to the value-added charge associated with the number. Herein, the charge may be a one-time charge (e.g., FIM/call) or based on ticks (e.g., FIM/min). Hence, the product or call can be charged in the telephone call bill, wherein it appears summed on the same row of value-added call charges accumulated from all calls placed to the numbers of a certain prefix.

A problem of the prior-art technique is that its billing process needs manual work and in most cases is complicated as well as poor in its cost-efficiency when purchasing a product or service occurs by way of calling a normal directory number and, on the other hand, is hampered by an extremely inflexible billing procedure in regard to the caller as well as to the product or service to be vended and, furthermore, payment for a plurality of products or services during a single call is practically impossible when the call is placed to a value-added service number.

When the call is placed to a normal telephone network directory number, the product or service provider bills the caller afterwards by the conventional billing methods of telephone service transactions. However, cash-on-delivery or a separate invoice mailed to the caller's address is an expensive method of billing particularly for low-price products and services. To avoid the possible risk of fraud, callers are reluctant to submit their credit card number to pay for the product or service. On the other hand, a bank account money transfer is badly suited for billing a service or product, because the account and reference number of the money transfer transaction must be given verbally to the caller during the call and the service/product provider has no firm security about due payment. Obviously, billing in conjunction with product delivery in certain cases (such as pizza orders) is rather uncomplicated, but even herein a risk of possible fraudulent behavior exists (e.g., in the form of nuisance orders directed to innocent third parties). Nevertheless, the person delivering the goods must always keep enough change with him. Also the present adoption of the e-money wallet concept undermines the convention of cash payment under these circumstances.

When the call is placed to a value-added service number, the caller pays the price of the service or product in his telephone bill on a per call basis (FIM/call) or a per time basis (FIM/min). However, in practice it is impossible to adjust the prices of ordered products and services so that their grand total would match with the number of ticks sent during the call or any other call charge category. As there is a need for flexible changes in the pricing of products or services and there must be a possibility of add-ing a random combination of different products and services in the shopping cart, a conventional billing procedure would necessitate the management of a huge number of different charging combinations in order to attain correct billing at all times for all possible shopping cart contents.

Further, the conventional billing technique applied to calls placed to value-added service numbers does not allow during the call a cancellation of a product or service already selected into the shopping cart so that no billable charging ticks would be

sent to the caller. This invokes situations in which manual procedures must be launched to compensate the caller for costs incurred from the call to said value-added service number. Moreover, today's billing routines of value-added calls do not allow the provider to directly and flexibly perform the pricing of products and services.

5   Neither has the caller any possibility of analyzing individual purchasing transactions, products and services purchased and their individual prices in his telephone bill, since value-added calls generally appear in the bill bunched on single grand total rows according to their value-added communications call prefixes.

10   It is an object of the invention to overcome the above-described drawbacks and to provide an entirely new type of method for implementing the vending of products and services over a telephone network.

The goal of the invention is achieved by during a single call offering the client a

15   facility of selecting with the help of a voice-message menu a plurality of differently priced services or products that are billed to the client in conjunction with his telephone bill, for instance.

The invention provides significant benefits.

20

In the method according to the invention, billing can be arranged in a flexible manner so that the price to be charged for vended products and services is no more dependent on, e.g., the duration of the call or the number of ticks sent during the call. Thus, the caller (buyer) can freely fill items into his shopping cart and, when required, also

25   remove items therefrom until feeling ready to confirm the shopping list. The time used for selecting items can be charged per a local call flat rate or, alternatively, a small extra fee may be added. The billing ticket is written only after the caller confirms the shopping list. Still alternatively, the caller may cancel all items selected, whereby the caller will not be billed by any amount in regard to products and

30   services.

In addition to its flexibility, the billing method according to the invention is cost-

efficient because the data of the purchasing transaction is transferred along with the call ticket to the operator's billing system, wherefrom the price of purchased items is printed on the telephone bill form. Thus, the service provider need not invoice the vended products and services separately. Furthermore, the provider will receive

5   information on each confirmed purchasing transaction sent directly onto his PC or GSM mobile phone.

The invention also offers the benefit of allowing an easy printout of itemized list of purchases to be made on the telephone bill form. The list of purchases is itemized by

10   time of purchasing transaction, purchased products and services, quantities thereof, item prices and grand totals. Furthermore, the detailed bill may be complemented with additional information about the available products and services and the provider thereof.

15   The voice message menu concept of the method according to the invention can also improve the efficiency of the provider's sales promotion by way of giving new callers basic information on the available products and services, their prices, etc. On the other hand, the voice message menu concept facilitates a real time connection to the provider at any time for checking, e.g., the delivery time and method or other

20   more specific product properties. Besides, the provider can always obtain information on his computer or GSM mobile phone on the products or services that are picked at any time in the caller's shopping cart before the call will be forwarded to the provider.

25   With the help of the method according to the invention, the provider can easily and flexibly maintain his product and service selection and their pricing information etc. by entering the updates in the system data base DB and the voice message menu of the system IP/IVR device.

30   In the following, the invention will be described in more detail with the help of examples by making reference to the appended drawings in which

FIG. 1 is a block diagram illustrating the method according to the invention for ordering and billing products and services in one possible system environment; and

FIG. 2 is a block diagram illustrating the method according to the invention for maintaining the product and pricing data base.

Referring to Fig. 1, the system environment shown therein comprises a subscriber connection 101 from which a call is placed to the service number, an SSP exchange 102 nearest to the subscriber connection, an SCP server 103 with call control data base controlling the SSP exchange 102, a data base DB 104, an IP/IVR device 105 linked to the public telephone network, a product/service provider's computer PC 106, a wireline connection 107 and a GSM mobile phone 108, both owned by the product/service provider, a billing server 109 and a bill 110 produced by the same. Obviously, the telephone system as a whole comprises a large number of connections similar to subscriber connection 101 and from these, a number of simultaneous calls may be placed to the service number while, for the sake of greater clarity, only one subscriber connection calling the service number is shown in the diagram. Respectively, there may be a plurality of product/service providers, whereby also several provider systems, each comprised of a provider-owned PC 106, wireline connection 107 and GSM mobile phone 108, may be included in the overall system not being limited by diagram wherein only one of each component is shown for clarity.

The invention is next described with reference to FIG. 1, wherein the buyer (caller) 101 of a product or service calls a value-added number and the call is forwarded to the nearest SSP (Service Switching Point) 102, wherefrom a request is sent to an SCP (Service Control Point) call control data base 103. The SCP call control data base 103 further makes a request to a data base DB 104 which contains real time information on the products and services offered by the service provider that owns the value-added number. The SCP call control data base 103 requests a voice response device IP/IVR 105 to play the buyer a voice message menu linked to said value-added service number. The menu tells the buyer 101 the different product and service items, their prices and when necessary, a short product description. The voice

message menu may also contain other information on the vended products and services with an outline of the service provider company.

Next, the buyer 101 is given the possibility of selecting one or more products or services with the help of the voice message menu. The real time status of the buyer's shopping cart is stored in the SCP call control data base 103. When the buyer 101 decides to check the final status of his shopping cart, information will be sent him on the content of the shopping cart, price of each product and service selected into the cart and the grand total of the shopping cart bill. As an option, the buyer 101 may also choose to talk with the product/service provider before closing his purchase order.

Information on the content of the buyer's shopping cart is transferred via the data base DB 104 either to the product/service provider's data base or via a GSM data connection or short messages to the provider's GSM mobile phone 108. The provider may alternatively receive a notice about the caller's wish to talk with the provider prior to selecting items into his shopping cart. Herein, the caller 101 can be forwarded to a connection 107 defined by the product/service provider, wherein the caller may submit additional information (e.g., mailing data) required for proper delivery of the selected product or service. Simultaneously, the provider can come to terms with the buyer on the availability and suitability of his products and services. Alternatively, the caller 101 may also request further information on the provider's products and services and their availability, whereupon the caller can return to the voice response menu of products/services. Hereupon, the connection between the caller and the provider is released and the caller is reconnected to the voice response menu. Now, he can acknowledge the selected content of his shopping cart ready for billing, make changes thereto, listen to more information the available products and services, decide to ask for more information from the provider or even terminate the call.

When the caller 101 acknowledges the shopping cart content ready for billing, he will receive a voice message about the grand total of the shopping cart content and

the data of the payment transaction is transferred via the SCP call control data base 103 and the data base DB 104 to the service provider as a confirmation of the purchase transaction. The SCP call control data base 103 requests the SSP exchange 102 to write a billing ticket on the payment of the shopping cart contents. The billing

5   ticket contains the product/service codes purchased from said provider, together with the quantities of purchased items. When necessary, a plurality of billing tickets can be written so that the product/service codes and order quantities of all the products and services selected into the shopping cart can be written on the tickets. The billing tickets are next transferred along with the transfer of normal call charge ticket data to

10   the system operator's billing system 109 that links the product/service codes and order quantities of products and services to be billed with the detailed product data and price information stored in the billing system at the instant of the caller's pur-chase transaction. After the crosslinking of data performed by the operator's billing system 109, the telephone bill 110 to be sent to the buyer (caller) 101 contains a

15   detailed list of products and prices ordered by the buyer. Additionally, the bill 110 may be complemented with service provider's contact data, delivery terms or other information of interest to the buyer.

The product or service provider maintains his product/service catalog and price list in

20   the data base DB 104. This data base also contains up-to-date information on one or more target numbers of each service number to which an incoming call shall be forwarded in the case that the buyer wishes to talk with the provider. The provider can update his information data base in real time via information networks (e.g., using his PC 106) or, alternatively, by means of a control menu accessible by the

25   touch-tone codes of the voice response device. Information on provider's product/service codes and item specifications, as well as other data to be printed on the buyers' telephone bills is transferred from the data base DB 104 to the operator's billing system. The product/service provider can himself update his voice message menu in the voice response device IP/IVR 105. Herein, he can directly record the

30   voice messages of menus, product specifications and other similar information. However, the recording of product/service price information cannot be performed directly by the provider, because they are played to the caller via the SCP call control

data base 103 on the basis of information stored in the data base DB 104.

As shown by arrows in FIG. 1, a call invoking vending of products and services over a telephone network comprises the following steps of the method:

5

1. Caller 101 first places a call to a value-added service number, whereupon the call is routed to the nearest SSP exchange 102.

2. The SSP exchange 102 sends a request to an SCP call control data base 103.

10

3. The SCP call control data base 103 identifies the call to be directed to a voice message product menu and sends a request to a data base DB 104, wherein the data of the service provider's voice message product menu is kept stored. Based on the stored data, the SCP call control data base 103 retrieves the up-to-date information,

15 among others, on proper voice message prompts, product/service codes, prices, etc.

4. SCP call control data base 103 requests IP device 105 to play the caller the voice message product menu associated with the called service number. The caller can navigate in the menu and add/remove products or services to be picked into his

20 shopping cart. If the caller wishes to contact the product/service producer, this is possible by a proper selection in the menu.

5. SCP call control data base 103 recognizes the need to connect the caller to the provider's telephone number and to send the provider information on the up-to-date

25 status of the caller's shopping cart.

6. SCP call control data base 103 sends the information on the up-to-date status of the caller's shopping cart via data base DB either to ...

30 7a. ... the provider's PC 106 over information networks or ...

7b. ... the provider's GSM mobile phone 108 either as GSM data or SMS text

message.

8a. Additionally, SCP call control data base 103 requests SSP exchange 102 to connect the caller to the provider's telephone number which may be either a wireline
5   connection 107 or ...

8b. a GSM mobile phone 108.

9. After the caller has completed the verbal contact with the provider (e.g., concern-
10   ing the content of the purchase, delivery terms or other product information), the provider hangs up and SSP exchange 102 returns the call control back to the SCP call control data base 103.

10. Hereupon, the caller is connected back to IP device 105, wherein he may either
15   acknowledge the payment of the selected content of his shopping cart, make changes therein, request for reconnection to the provider's telephone number or hang up. In the latter case, no billing for the content of the shopping cart will be billed.

11. When the caller acknowledges the payment of the selected content of his
20   shopping cart, a report thereof is sent to the provider and a billing ticket with correct provider and product codes is written.

12. SCP call control data base 103 sends the information on the caller's shopping cart status and payment acknowledge via data base DB 104 either to ...
25

13a. ... the provider's PC 106 over information networks or ...

13b. ... the provider's GSM mobile phone 108 either as GSM data or SMS text message.
30

14. SCP call control data base 103 requests SSP exchange 102 to write a ticket with data identifying the service provider and the codes of purchased products/services.

15a. The billing tickets are passed through the operator's conventional postprocessing of tickets to the billing system 109.

16. Billing system 109 links billing ticket data (i.e., product and service codes of purchased products and services with their ordered quantities) with product specifications and price information stored in the billing system that were valid at the instant of purchase. Based thereon, the buyer (caller) can see in his telephone bill 110 a detailed itemization of his purchase as to the ordered products and their prices. Further, it is possible to print on the bill form the service provider's contact data, delivery terms or other information of interest to the buyer.

In FIG. 2 are indicated by arrows the method steps for maintaining the product and pricing data base, wherein the block symbols represent means associated with said steps.

The system environment outlined in FIG. 2 comprises a data base 104, an IP/IVR device 105, a product/service provider's computer PC 106, a wireline connection 107 and a GSM mobile phone 108, both owned by the product/service provider, and a billing server 109.

Now referring to FIG. 2, the maintenance of product and service data in a system for vending of products and services over a telephone network in the manner described in FIG. 1 above comprises the following steps:

1a. Service provider maintains the product and service data of his products and services by making updates in a data base DB 104. This is accomplished in real time either over information networks using, e.g., the provider's PC 106 as a terminal or, alternatively, ...

1b. ... using telephone set 107, 108 for accessing the touchtone control menu of an automatic voice response device 105.

2. Information on provider's product/service codes and item specifications, as well as other information to be printed on telephone bill form, is transferred from data base DB 104 to the system operator's billing system 109.

3a. The product or service provider updates his voice message product menu stored in automatic voice response device IP/IVR 105. This is accomplished by calling the voice response device 105 and then making the required changes in the stored voice messages of the menus, specifications of products and other voice information to be submitted to a caller. However, the recording of product/service price information cannot be updated over this path as they are played as system voice announcements via the SCP call control data base (103 in FIG. 1).

3b. Alternatively, the above-described operation can be carried out from the provider's GSM mobile telephone 108.

One important and novel technique of implementing the invention is by way of the WAP (Wireless Application Protocol) concept. Resembling the Internet, WAP is a information transfer architecture optimized for the special needs of wireless communication. Being finalized during the years 1999-2000, the WAP concept will facilitate the integration of WWW browsers in mobile terminals so that the narrow bandwidth of the radio transmission path will be utilized more effectively. In due time, WAP will become fully integrated with the Internet so that all the components of the Internet architecture will have a counterpart in the WAP. For instance the HMTL and Java script conventions of the Internet are respectively available in the WAP as the WML (Wireless Markup Language) and WML scripts. In practice, data conversions between these two "worlds" take place in so-called filter elements in the case that a given web server does not directly recognize the need for sending information in WAP format to an addressed mobile terminal.

In this embodiment of the invention, while the above described technique of sending information as short messages and over GSM data transmission channels still

remains valid (items 7b and 13b of FIG. 1), the provider in practice does not find himself reading a short message or using the GSM data reception facilities, but rather operates on the WAP browser of his mobile terminal. When the provider wishes to receive information over his WAP browser on the shopping cart status of buyers and related payments, he can launch his own WWW application through his WAP compatible mobile terminal. The basic rule is that the status of the buyer's shopping cart will be shown on the provider's WAP browser not earlier than when the caller wishes to contact the provider for information on the product availability or other product data. Respectively, confirmed purchase transactions will be always indicated on the service provider's browser.

Theoretically, it is even possible to send continuously scanned updates on the movements of buyers in the service menu and real time status of each shopping cart. Then, the provider could on his WAP browser conduct real time monitoring of the shopping behavior of buyers visiting his "shop".

Also the above-described steps to be performed by the provider for updating the product and price specifications of his products and services over information networks and using a PC may as well be carried out with the help of the provider's mobile terminal and WAP browser. Herein, while the update routines (item 1 of FIG. 2) of data base DB 104 based on information networks will remain valid, the provider does not need a PC, but rather, can use the WAP browser of his mobile terminal for accessing the data base DB 104 over suitable WAP-to-Internet gateways.

Another essential modification of the method comprises transferring all the billing information (i.e., products, quantities thereof, product specifications, general information on products and provider, etc.) from the provider's data base DB 104 first to SCP 103, therefrom to the ticketing routine of SCP 102 and transparently therefrom onto the telephone bill form 110 as indicated by arrow 15b in FIG. 1.

In this embodiment, the provider's data base DB 104 would not update the billing server 109 with the basic product and provider information (billing server), but

instead <u>all</u> the itemized data and information to be printed on the telephone bill form would come via the tickets written by SCP 102. Then, the billing system 109 would only need to manage the printing of the telephone bill.

5   This functionality of the invention makes it possible to format the telephone bill in an extremely flexible manner. Examples of such features are extra text lines, graphics, pictures, alphanumeric characters, bar codes, etc. One but not a limiting application is to perform said formatting of the billing data and other information for printing on the telephone bill form is to encode the information ASCII-8 format characters,

10   wherefrom the text lines of desired content in regard to each purchase transaction are printed on the telephone bill form.

While the invention has been described above by making reference to a GSM mobile phone, short messages and GSM data transfer in the description related to mobile

15   terminals and data transmission techniques thereof, the present invention is as well applicable to other digital mobile terminal systems, networks and their data transmission methods.

What is claimed is:

1. Method for implementing vending of products and services over a telecommuni-
cation network, in which method the service provider (106-110) is offered the
possibility with the help of a voice response server (105) of providing goods and/or
services to clients (101) using a vending procedure based on a value-added calls,
wherein during a single call the client (101) is given the facility of selecting with the
help of a voice-message menu (105) a plurality of differently priced services or
products that are billed to the client (101) in conjunction with his telephone bill, for
instance, **characterized** in that the service provider is offered the possibility of
updating his information data base in real time either over information networks
(106) or, alternatively, using the touchtone control menu (107, 108) of said automatic
voice response device.

2. Method according to claim 1, **characterized** in that information on the provider's
product and service codes and product specifications, as well as other information to
be printed on the client's telephone bill, is transferred from said provider's data base
DB (104) to the system operator's billing system.

3. Method according to any claim 1 or 2, **characterized** in that all the billing
information such as, e.g., ordered products, quantities thereof, product specifications,
general information on products and provider, are transferred (15b) from the
provider's data base DB (104) first to SCP (103), therefrom to the ticketing routine
of SCP (102) and transparently therefrom onto the telephone bill form (110),
whereby the provider's data base DB (104) will not update the billing server (109)
with the basic product and provider information, but instead at least essentially all
the itemized data and information to be printed on the telephone bill form come via
the tickets written by SCP (102).

4. Method for implementing vending of products and services over a telecommuni-
cation network, in which method the service provider (106-110) is offered the
possibility with the help of a voice response server (105) of providing goods and/or

services to clients (101) using a vending procedure based on a value-added calls, wherein during a single call the client (101) is given the facility of selecting with the help of a voice-message menu (105) a plurality of differently priced services or products that are billed to the client (101) in conjunction with his telephone bill, for

5   instance, **characterized** in that the call placed by the client (101) to a value-added service number is forwarded to the nearest SSP exchange (102), wherefrom a request is sent to an SCP call control data base (103), whereupon the SCP call control data base (103) further makes a request to a data base DB (104) which contains real time information on the products and services offered by the service provider that owns

10   the value-added number, subsequently the SCP call control data base (103) requests an automatic voice response device IP/IVR (105) to play the caller a voice message menu linked to said value-added service number, whereby the menu tells the client (101) the different product and service item alternatives, their prices and when necessary, a short product description.

15

5. Method according to claim 4, **characterized** in that the client (101) is given the possibility of using a voice message menu (105) to obtain product- or provider-specific additional information during a value-added purchasing call.

20   6. Method according to claim 4 or 5, **characterized** in that the real time status of the shopping cart filled by the client (101) is stored in the SCP call control data base (103) and, when the client (101) acknowledges his shopping cart content ready for billing, information is sent him on the content of the shopping cart, price of each product and service selected into the cart and the grand total of the shopping cart

25   content, whereupon said information on the content of the shopping cart is transmitted via said data base DB (104) either to the product/service provider's information system (109) or, alternatively, over a GSM data connection or short messages to the service provider's GSM mobile phone (108).

30   7. Method according to claim 4 or 5 or 6, **characterized** in that when the client (101) has acknowledged the shopping cart content ready for billing, he will receive a voice message about the grand total of the cart content and the data of the payment

transaction is transferred via said SCP call control data base (103) and said data base DB (104) to the service provider as a confirmation of the purchase transaction and said SCP call control data base (103) requests said SSP exchange (102) to write such a billing ticket on the payment of the shopping cart contents that contains the
5   product/service codes purchased from said provider, together with the quantities of purchased items.

8. Method according to claim 4 or 5 or 6 or 7, **characterized** in that a plurality of billing tickets are made so that the product/service codes and order quantities of all
10   the products and services selected into the shopping cart can be written on the tickets.

9. Method according to claim 4 or 5 or 6 or 7 or 8, **characterized** in that the billing tickets are transferred along with the transfer of normal call charge ticket data to the system operator's billing system (109) that links the product/service codes and order
15   quantities of products and services to be billed with the detailed product data and price information stored in the billing system at the instant of the caller's purchase transaction.

10. Method according to claim 4 or 5 or 6 or 7 or 8 or 9, **characterized** in that the
20   bill (110) is complemented with service provider's contact data, delivery terms or other information of interest to the buyer.

11. Method for implementing vending of products and services over a telecommuni-cation network, in which method the service provider (106-110) is offered the
25   possibility with the help of a voice response server (105) of providing goods and/or services to clients (101) using a vending procedure based on a value-added calls, wherein during a single call the client (101) is given the facility of selecting with the help of a voice-message menu (105) a plurality of differently priced services or products that are billed to the client (101) in conjunction with his telephone bill, for
30   instance, **characterized** in that the real time status of the shopping cart filled by the client (101) is stored in the SCP call control data base (103) and, when the client (101) acknowledges his shopping cart content ready for billing, information is sent

him on the content of the shopping cart, price of each product and service selected into the cart and the grand total of the shopping cart content, whereupon said information on the content of the shopping cart is transmitted via said data base DB (104) either to the product/service provider's information system (109) or,
5   alternatively, over a GSM data connection or short messages to the service provider's GSM mobile phone (108).

12.   Method according to claim 11, **characterized** in that the client (101) is given the possibility of using a voice message menu (105) to obtain product- or provider-
10   specific additional information during a value-added purchasing call.

13.   Method according to claim 11 or 12, **characterized** in that the call placed by the client (101) to a value-added service number is forwarded to the nearest SSP exchange (102), wherefrom a request is sent to an SCP call control data base (103),
15   whereupon the SCP call control data base (103) further makes a request to a data base DB (104) which contains real time information on the products and services offered by the service provider that owns the value-added number, subsequently the SCP call control data base (103) requests an automatic voice response device IP/IVR (105) to play the caller a voice message menu linked to said value-added
20   service number, whereby the menu tells the client (101) the different product and service item alternatives, their prices and when necessary, a short product description.

14.   Method according to claim 11 or 12 or 13, **characterized** in that when the client
25   (101) has acknowledged the shopping cart content ready for billing, he will receive a voice message about the grand total of the cart content and the data of the payment transaction is transferred via said SCP call control data base (103) and said data base DB (104) to the service provider as a confirmation of the purchase transaction and said SCP call control data base (103) requests said SSP exchange (102) to write such
30   a billing ticket on the payment of the shopping cart contents that contains the product/service codes purchased from said provider, together with the quantities of purchased items.

18

15. Method according to claim 11 or 12 or 13 or 14, **characterized** in that a plurality of billing tickets are made so that the product/service codes and order quantities of all the products and services selected into the shopping cart can be written on the
5 tickets.

16. Method according to claim 11 or 12 or 13 or 14 or 15, **characterized** in that the billing tickets are transferred along with the transfer of normal call charge ticket data to the system operator's billing system (109) that links the product/service codes and
10 order quantities of products and services to be billed with the detailed product data and price information stored in the billing system at the instant of the caller's purchase transaction.

17. Method according to claim 11 or 12 or 13 or 14 or 15 or 16, **characterized** in
15 that the bill (110) is complemented with service provider's contact data, delivery terms or other information of interest to the buyer.

[57] **Abstract**

The present invention relates to a method for implementing
vending of products and services over a telecommunication
network, in which method the service provider (106-110) is
offered the possibility with the help of a voice response server
(105) of providing goods and/or services to clients (101) using a
vending procedure based on a value-added calls. According to
the invention, during a single call the client (101) is given the
facility of selecting with the help of a voice-message menu
(105) a plurality of differently priced services or products that
are billed to the client (101) in conjunction with his telephone
bill, for instance.

(FIG. 1)
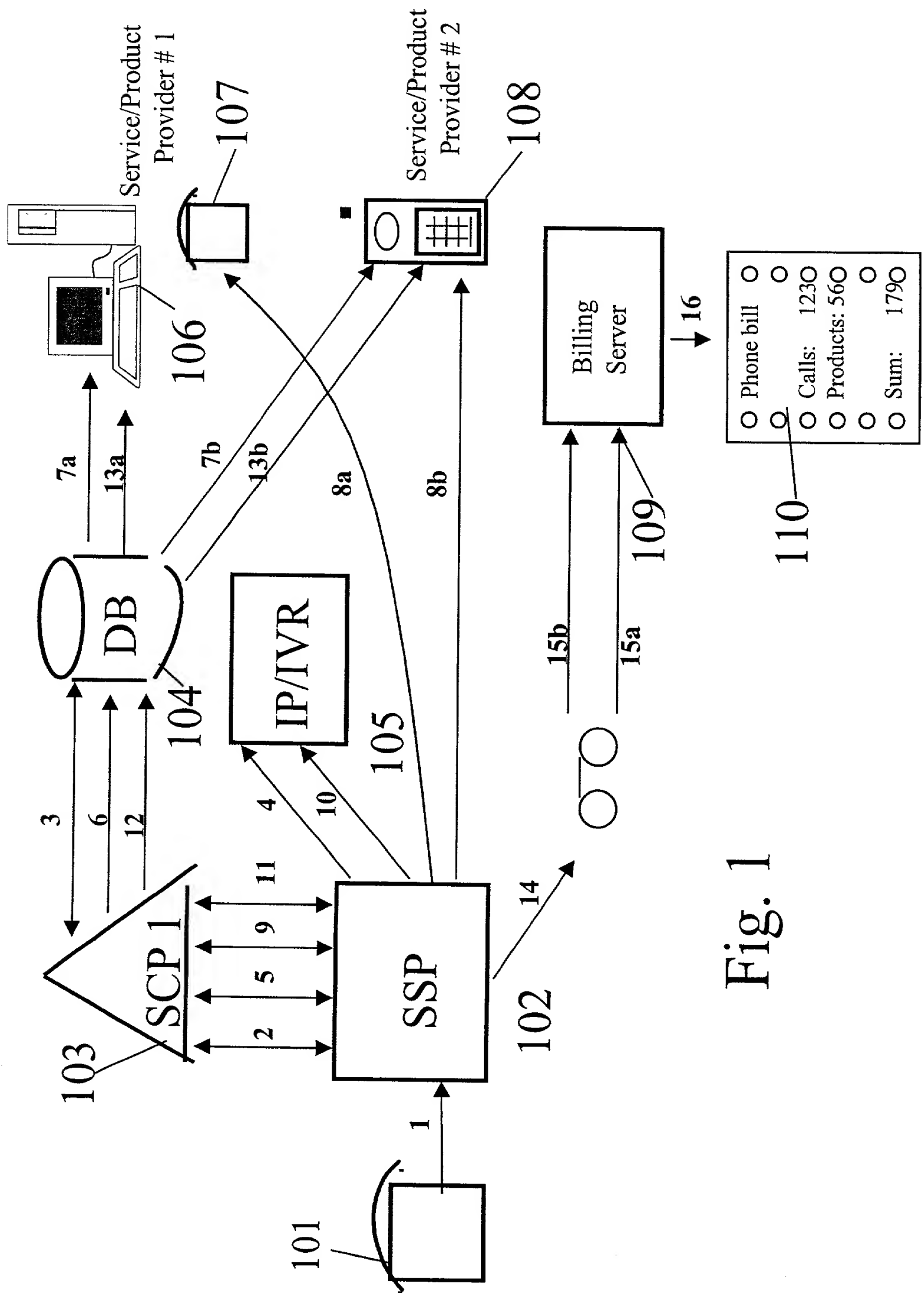
Fig. 1
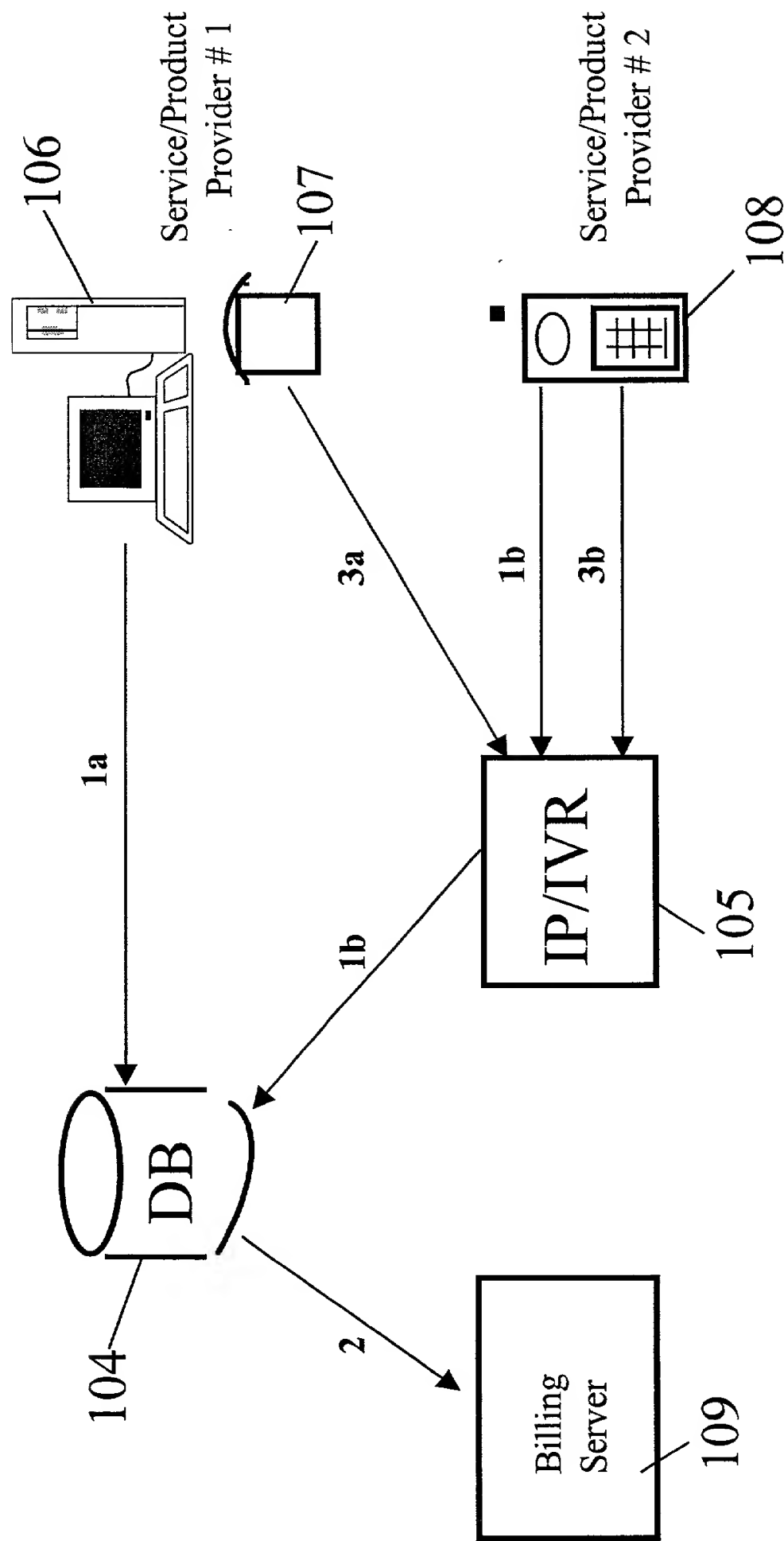
Fig. 2

BIRCH, STEWART, KOLASCH & BIRCH, LLP

COMBINED DECLARATION AND POWER OF ATTORNEY

FOR PATENT AND DESIGN APPLICATIONS

PLEASE NOTE: YOU MUST COMPLETE THE FOLLOWING:

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Insert Title: ➡️ Method for organizing the exchange of products and services
by means of a telecommunications network

Fill in Appropriate Information - For Use Without Specification Attached: ➡️

the specification of which is attached hereto. If not attached hereto,

the specification was filed on_____ as

United States Application Number_____; and/or

the specification was filed on _December 2, 1999_____ as PCT

International Application Number __PCT/FI99/01002_____; and was

amended under PCT Article 19 on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 (a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Insert Priority Information: (if appropriate) ➡️

Prior Foreign Application(s)

(Number)	(Country)	(Month/Day/Year Filed)	Priority Claimed	
			Yes	No
982607	Finland	December 2, 1998	☒ Yes	☐ No
			☐ Yes	☐ No
			☐ Yes	☐ No
			☐ Yes	☐ No
			☐ Yes	☐ No

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below.

Insert Provisional Application(s): (if any) ➡️

(Application Number)_____ (Filing Date)_____

(Application Number)_____ (Filing Date)_____

All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More Than 12 Months (6 Months for Designs) Prior To The Filing Date of This Application:

Insert Requested Information: (if appropriate) ➡️

Country	Application No.	Date of Filing (Month/Day/Year)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Insert Prior U.S. Application(s): (if any) ➡️

(Application Number)_____ (Filing Date)_____ (Status - patented, pending, abandoned)_____

(Application Number)_____ (Filing Date)_____ (Status - patented, pending, abandoned)_____

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary:

Terrell C. Birch	(Reg. No. 19,382)	Raymond C. Stewart	(Reg. No. 21,066)
Joseph A. Kolasch	(Reg. No. 22,463)	James M. Slattery	(Reg. No. 28,380)
Bernard L. Sweeney	(Reg. No. 24,448)	Michael K. Mutter	(Reg. No. 29,680)
Charles Gorenstein	(Reg. No. 29,271)	Gerald M. Murphy, Jr.	(Reg. No. 28,977)
Leonard R. Svensson	(Reg. No. 30,330)	Terry L. Clark	(Reg. No. 32,644)
Andrew D. Meikle	(Reg. No. 32,868)	Marc S. Weiner	(Reg. No. 32,181)
Joe McKinney Muncy	(Reg. No. 32,334)	Donald J. Daley	(Reg. No. 34,313)
C. Joseph Faraci	(Reg. No. 32,350)		

15

Send Correspondence to:

BIRCH, STEWART, KOLASCH & BIRCH, LLP
P.O. Box 747 • Falls Church, Virginia 22040-0747
Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

**PLEASE NOTE:
YOU MUST
COMPLETE THE
FOLLOWING:** ↓

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of First or Sole Inventor:
Insert Name of Inventor ➡
Insert Date This Document is Signed

**Insert Residence
Insert Citizenship** ➡

Insert Post Office Address ➡

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*
Lauri	Isotalo		May 22, 2001

Residence (City, State & Country)	CITIZENSHIP
Helsinki, Finland	Finnish

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)
Kauppakartanonkatu 15 B 19, FIN-00930 Helsinki, Finland

Full Name of Second Inventor, if any:
see above

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*

Residence (City, State & Country)	CITIZENSHIP

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)

Full Name of Third Inventor, if any
see above

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*

Residence (City, State & Country)	CITIZENSHIP

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)
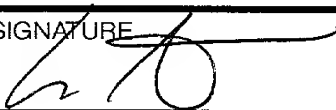
Full Name of Fourth Inventor, if any
see above

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*

Residence (City, State & Country)	CITIZENSHIP

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)

Full Name of Fifth Inventor, if any
see above

GIVEN NAME	FAMILY NAME	INVENTOR'S SIGNATURE	DATE*

Residence (City, State & Country)	CITIZENSHIP

POST OFFICE ADDRESS (Complete Street Address including City, State & Country)

* DATE OF SIGNATURE